

**SAS Superstructure**

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 22-Nov-14

Time 7:01 AM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 1103 Const Calendar Day: 676

Date: 11-Apr-2014 Friday

Inspector Name: Brignano, Bob

Title: Transportation Engineer

Inspection Type:

Shift Hours:

Break:

Over Time:

Federal ID:

Location:

Reviewer: Schmitt, Alex

Approved Date:

Status: Submit

**04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge****Weather****Temperature 7 AM****12 PM****4PM****Precipitation****Condition** overcast am and pmWorking Day ☒ If no, explain:**Diary:**

Dispute

General Comments

CCO 314, SAMPLING AND TESTING A354 GRADE BD MATERIAL:

ABF Engineer Kelvin Chen is not at work today.

On site today from VGO is Rob Rutledge. VGO arrives on site at 0800 and leaves the site about 1200. In the afternoon, VGO produces the evening data reports.

Crews at the Pier 7 warehouse area are working an 8-hour shift 0700 through 1530 today. Ironworkers Jared Garret and Kyle Crowley start work at the test rig site after the morning 10am break, are present for the tensioning steps, and then work the remainder of the morning and afternoon on non-CCO 314 operations elsewhere at the Pier 7 warehouse area. Portions of the shift not spent at the CCO 314 test rigs are not covered in this diary.

This morning between about 0815 and 0845, while both TR's 12 & 13 are at 0.55 Fu, I took NaCl solution samples from the wet chambers. CT-METS is notified so that a note about the noise can be made with the AE data. The samples were provided to the DJV. Below are the pH results.

TR 12 mid-height of wet chamber:

0-14 pH paper = 6

4.0-7.0 pH paper = 5.5

6.5-10.0 pH paper = <6.5 (out of range)

TR 13 mid-height of wet chamber:

0-14 pH paper = 6

4.0-7.0 pH paper = 5.3

6.5-10.0 pH paper = <6.5 (out of range)

VGO performs reference electrode and pH checks at TR's 12 & 13 approximately 0915 to 0945. CT-METS is notified so that a note about the noise can be made with the AE data. It is noted that the reference electrode stays within 5 mV when compared with the master electrode in the pre- and post-checks. It is also noted that when checking the pH paper with the 7.00 buffer solution, the 4.0-7.0 pH paper and the 6.5-10.0 pH paper both read 6.5.

Note that some of the pH readings are with colors on the pH paper that are borderline between 2 values. For TR 13, for the 4.0-7.0 pH paper, both VGO in their check this morning and me in my sampling and check this morning thought that the color was between 5.3 and 5.5. I thought it was closer to 5.3 and VGO



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thought it was closer to 5.5.

Starting after the morning break, the tensioning steps (0.60 Fu) at TR's 12 and 13 happen. Two ironworkers are present to operate the hydraulic pump, turn the nuts, and perform the NaCl Solution flow / air venting steps from the wet chamber at the washer notch. VGO is present to monitor the loads being used to guide the operation. Present from CT-METS is Elijah Turner with MISTRAS personnel on the phone line continuously monitoring all AE data on the two channels for each test rig during the jacking operation and the water/air venting. Present from the DJV is Ashley Takata during the jacking operation.

Test Rig #12 (2008 Rod, ID S2-A8, Heat MJF-32, Top) Jacking Step:

This is the 5th jacking step and the rod is being jacked to 0.60 Fu. The post-seating of the nut target is 501.480 +10/-0 kips. The expected hydraulic pressure at this locked off force is 3,000 psi. Based on the previous jacking step (0.55 Fu), the expected seating loss is at least 33-35 kips, meaning the initial jacking target is ~540-550 kips. Jacking is started at about 1024. At 3,000 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 487 kips. The hydraulic pressure is increased to 3,400 psi and the primary strain gauges give a force of 522 kips. The hydraulic pressure is increased to 3,600 psi and the primary strain gauges give a force of 555 kips. The AE is checked with the ok given at 1027. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 551 kips (bleed loss = 4 kips). After bleeding off the jacks, the primary strain gauges give a force of 512 kips (seating loss = 39 kips). The tension in the rod after seating the nut is not within tolerance – the nut will need to be loosened to bring down the force slightly. For the second jacking step, at 1029, at 3,550 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 548 kips, which is lower than the previous jacking step. The AE is checked with the ok given at 1031. The nut is loosened, which takes some effort because the rod was not jacked as high this time as it was in the previous jacking step. Then the nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 547 kips (bleed loss = 1 kip). After bleeding off the jacks, the primary strain gauges give a force of 508 kips (seating loss = 39 kips). The force is within the specified tolerance at 1032.

Test Rig #13 (2008 Rod, ID S2-A8, Heat MJF-32, Bottom) Jacking Step:

This is the 5th jacking step and the rod is being jacked to 0.60 Fu. The post-seating of the nut target is 501.480 +10/-0 kips. The expected hydraulic pressure at this locked off force is 3,000 psi. Based on the previous jacking step (0.55 Fu), the expected seating loss is at least 39-40 kips, meaning the initial jacking target is ~540-550 kips. Jacking is started at about 1035. At 3,000 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 494 kips. The hydraulic pressure is increased to 3,300 psi and the primary strain gauges give a force of 536 kips. The hydraulic pressure is increased to 3,400 psi and the primary strain gauges give a force of 550 kips. The AE is checked with the ok given at 1038. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 547 kips (bleed loss = 3 kips). After bleeding off the jacks, the primary strain gauges give a force of 506 kips (seating loss = 41 kips). The force is within the specified tolerance at 1039.

After the tensioning steps at TR's 12 and 13, the NaCl Solution flow / air venting steps through the notch in the washers need to be completed at the wet chambers. This step was done two days ago and there are no changes to the wet chambers at this dead end, but the DJV has requested that this step be performed every other day regardless. The operation of flowing NaCl Solution from the notch involves removing the plumbers putty and backer rod, flowing NaCl Solution for few minutes (flows into SWPPP containment on the concrete slab), documenting the flow with photos and videos, pushing a small piece of closed cell backer rod in the notch in the washer, and sealing over the backer rod with plumbers putty. This operation happens at both TR's 12 & 13. The NaCl Solution level dropped very little in both wet chambers from this operation, but we still refill the wet chambers at both test rigs at approximately 1055.

A 7kW generator – Whisperwatt 7000 – ABF ID 002343 is on idle/standby at the test rig work area. A 40kW generator – MQ Power 40 – ABF ID 002051 is used to run the hydraulic pump for the jacks for less than an hour. An oxyacetylene torch is on idle/standby at the test rig work area. A compressor – IR P185 ABF ID 000002 is on idle/standby at the test rig work area. A Kubota Cart is used at the test rig work area when the ironworkers arrive for today's tensioning step.

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Note that there is k-rail at this work area. Some of the k-rail is rented and addressed by the rental agreement. Some of the k-rail is ABF's k-rail used on site and paid as rented from ABF on a daily basis. To elevate the k-rail, crane mats and timber blocking (12x12's) are in use. The k-rail quantities are as follows:

10' bought k-rail = 20 pieces

10' ABF k-rail = 4 pieces

20' rented k-rail = 10 pieces

20' ABF k-rail = 16 pieces

Note that this includes three 20' ABF k-rail between the CCO 314 work area and FW Spencer's yard, with that k-rail being in place prior to the CCO work and not related to CCO 314. Also a fourth 20' ABF k-rail is between the CCO 314 work area and FW Spencer's yard along the fence line near the BayView Trailer.

The agreed extra work with ABF is as follows:

Ironworker Jared Garrett - 1 hr

Ironworker Kyle Crowley - 1 hr

Kubota Cart - 1 hrs

40kW Generator - 1 hr

k-rail: 10 pcs @20' and 4 pcs @10'

Crane Mats (12x12 - 5'x16') - 4 pcs

Crane Mats (12x12 - 5'x7') - 15 pcs

See the attached Extra Work Order - Signed with ABF for CCO 314 work